

Patent claims

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1. Connection of a bone screw (12) to a bone plate (7) with a bone screw (12), the head (13) of which lies with a ring-shaped outer surface (10) in contact on a counter-surface (25) of the bone plate (7) and can be fixed with a securing screw (15) which can be screwed in in the bone plate (7) in the direction towards the counter-surface (25), with the bone plate (7) having a passage opening (17) for a shaft (18) of the bone screw (12), characterized in that the height (16) of the bone plate in the region of the bone screw (12) is less than or equal to the diameter (19) of the shaft (18); in that the screw head (13) dips in into a cut-out (20) of the securing screw (15); and in that the securing screw (15) terminates with the upper side of the bone plate (7).
  2. Connection in accordance with claim 1, characterized in that the securing screw (15) has a threaded length (27) which dips in into the bone plate (7) and which amounts to more than half the height (16) of the bone plate (7) in the region of the bone screw (12).
  - Sub. a2<sup>3</sup>. ~~Connection in accordance with claim 1 or claim 2, characterized in that the head (13) of the bone screw is designed as a spherical pan, the outer surface (22) and the inner surface (23) of which have a same center (24); and in that the securing screw dips in into the pan with a suitable core (26).~~

4. Connection in accordance claim 3, characterized in that the cut-out (20) of the securing screw (15) is dimensioned such that the head (13) of the bone screw (12) can be fixed at different angular positions with respect to the axis of the securing screw (15).
5. Connection in accordance with claim 4, characterized in that in relation to a middle position of the bone screw (12) in the direction of the axis of the securing screw (15) the head (13) permits a fixing position with an angular deflection  $\alpha_1$  at its outer surface (22); and in that the cut-out (20) of the securing screw (15) permits an angular deflection  $\alpha_2$  of similar magnitude for the screw head (13); and in that an angle  $\beta$  with respect to the center which is taken up by the counter-surface (10, 25) is greater than the respective angle  $\alpha_1, \alpha_2$ .
6. Connection in accordance claim 5, characterized in that the angles  $\alpha_1, \alpha_2$  correspond in each case to an angle from  $3^\circ$  to  $20^\circ$ .
7. Connection in accordance with any one of the claims 1 to 6, comprising a bone plate (7) which is formed as a yoke which can be used as an anchoring body (4, 14) for a support construction at a vertebra (1, 2).
8. Connection in accordance with any one of the claims 1 to 6, comprising a bone plate (7) which can be used as a bridge (21) between two vertebrae (1, 2).

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9. Connection in accordance with claim 8, comprising a bridge (21) which bridges over the distance between two vertebrae (1, 2) and is formed as a bending spring (35).

10. Connection in accordance with any one of the claims 1 to 9, characterized in that the shaft diameter (19) of the bone screw (12) amounts to between 2 and 10 mm.

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